| | **Application No.** | **Applicant(s)** |
|---|---|---|
| ***Notice of Allowability*** | 09/975,442 | DERVIN ET AL. |
| | **Examiner** | **Art Unit** |
| | Andrew Caldwell | 2142 |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--*

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *appeal brief filed on January 23, 2006*.

2. ☒ The allowed claim(s) is/are *1-31*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All    b) ☐ Some*    c) ☐ None    of the:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of

        Paper No./Mail Date _____ .

    **Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *Attached* .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____

**ANDREW CALDWELL**
PATENT EXAMINER

1                                    **EXAMINER'S AMENDMENT**

2          An examiner's amendment to the record appears below. Should the changes

3    and/or additions be unacceptable to applicant, an amendment may be filed as provided

4    by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

5    submitted no later than the payment of the issue fee.

6          Authorization for this examiner's amendment was given in a telephone interview

7    with the Applicants' attorney, Scott Stinebruner, Reg. No. 38,323 on August 1, 2006.

8

9          Please amend the claims as follows:

10

11

1. (Previously Presented) A method of updating a cluster infrastructure version used by a group resident in a clustered computer system of the type including a plurality of nodes, the method comprising:

      (A) updating the cluster infrastructure software from a first version to a second version in individual nodes in the clustered computer system while the group is maintained in an active state, wherein the second version of the cluster infrastructure software has different program code from the first version of the cluster infrastructure software;

      (B) after the cluster infrastructure software is updated, notifying the group of the update to the cluster infrastructure software; and,

      (C) in response to the notification, dynamically updating a cluster infrastructure version used by the group to that of the updated cluster infrastructure software.

2. (Original) The method of claim 1, wherein the updated cluster infrastructure software includes at least one new function, whereby the group has access to the new function subsequent to dynamically updating the cluster infrastructure version used by the group.

3. (Original) The method of claim 1, further comprising notifying all groups resident in the clustered computer system after the cluster infrastructure software is updated.

4. (Original) The method of claim 1, wherein updating the cluster infrastructure software in an individual node comprises shutting down the node, installing cluster infrastructure software on the node, and restarting the node.

5. (Original) The method of claim 4, wherein shutting down the node includes removing a member that is resident on the node from the group and wherein restarting the node includes adding the member to the group.

6. (Original) The method of claim 1, wherein notifying comprises sending a ordered message to the group.

7. (Original) The method of claim 6, wherein notifying comprises sending a membership change message with an adjust version reason code.

8. (Original) The method of claim 1, further comprising verifying that all nodes are active prior to notifying the group.

9. (Original) The method of claim 1, further comprising verifying that the group is not partitioned prior to notifying the group.

10. (Original) The method of claim 1, further comprising verifying that all nodes are capable of running the updated cluster infrastructure version prior to notifying the group.

11. (Currently Amended) An apparatus comprising:

(A) a node configured to participate in a clustered computer system, the node having resident thereon cluster infrastructure software and at least one member of a group; and,

(B) program code resident in the node, the program code configured to notify the member of an update to the cluster infrastructure software <u>on all nodes in the clustered computer system having a member of the group</u> from a first version to a second version, and to dynamically update a cluster infrastructure version used by the member to that of the updated cluster infrastructure software; wherein the second version of the cluster infrastructure software has different program code from the first version of the cluster infrastructure software.

12. (Original) The apparatus of claim 11, wherein the updated cluster infrastructure software includes at least one new function, whereby the group has access to the new function subsequent to dynamically updating the cluster infrastructure version used by the node.

13. (Original) The apparatus of claim 11, wherein the notification is made using ordered messaging.

14. (Original) The apparatus of claim 13, wherein the notification is made via a membership change message with an adjust version reason code.

15. (Original) The apparatus of claim 11, wherein the program code is further configured to verify that the node is active prior to notifying the member and, if the node is not active, to return an error message.

16. (Original) The apparatus of claim 11, wherein the program code is further configured to verify that the group is not partitioned prior to notifying the member and, if the group is partitioned, to return an error message.

17. (Original) The apparatus of claim 11, wherein the program code is further configured to determine whether the node is capable of running the updated cluster infrastructure software prior to notifying the member and, if the node is not capable of running the updated cluster infrastructure software, to return an error message.

18. (Currently Amended) A program product, comprising:

(A) program code configured to reside on a node that participates in a clustered computer system and that further has resident thereon cluster infrastructure software and at least one member of a group, the program code configured to notify the member of an update to the cluster infrastructure software on all nodes in the clustered computer system having a member of the group from a first version to a second version, and to dynamically update a cluster infrastructure version used by the member to that of the updated cluster infrastructure software; and,

(B) a recordable type signal-bearing medium bearing the program code; wherein the second version of the cluster infrastructure software has different program code from the first version of the cluster infrastructure software.

19. (Original) The program product of claim 18, wherein the updated cluster infrastructure software includes at least one new function, whereby the group has access to the

new function subsequent to dynamically updating the cluster infrastructure version used by the node.

20. (Original) The program product of claim 18, wherein the notification is made using ordered messaging.

21. (Original) The program product of claim 20, wherein the notification is made via a membership change message with an adjust version reason code.

22. (Original) The program product of claim 18, wherein the program code is further configured to verify that the node is active prior to notifying the member and, if the node is not active, to return an error message.

23. (Original) The program product of claim 18, wherein the program code is further configured to verify that the group is not partitioned prior to notifying the member and, if the group is partitioned, to return an error message.

24. (Original) The program product of claim 18, wherein the program code is further configured to determine whether the node is capable of running the updated cluster infrastructure software prior to notifying the member and, if the node is not capable of running the updated cluster infrastructure software, to return an error message.

25. (Previously Presented) A cluster computer system, comprising:

(A) a plurality of nodes, each having resident thereon cluster infrastructure software;

(B) a group including a plurality of group members resident on the plurality of individual nodes; and,

(C) program code resident on the plurality of nodes, the program code configured to shutdown and restart individual nodes among the plurality of nodes while maintaining the group in an active state so that the cluster infrastructure software resident on such

individual nodes can be updated to incorporate different program code while such individual nodes are shutdown, the program code further configured to notify the group of the update to the cluster infrastructure software after the cluster infrastructure software has been updated in each of the plurality of nodes, and to dynamically update a cluster infrastructure version used by the group to that of the updated cluster infrastructure software.

26. (Original) The clustered computer system of claim 25, wherein the updated cluster infrastructure software includes at least one new function, whereby the group has access to the new function subsequent to dynamically updating the cluster infrastructure version used by the node.

27. (Original) The clustered computer system of claim 25, wherein the notification is made using ordered messaging.

28. (Original) The clustered computer system of claim 27, wherein the notification is made via a membership change message with an adjust version reason code.

29. (Original) The clustered computer system of claim 25, wherein the program code is further configured to verify that the node is active prior to notifying the member and, if the node is not active, to return an error message.

30. (Original) The clustered computer system of claim 25, wherein the program code is further configured to verify that the group is not partitioned prior to notifying the member and, if the group is partitioned, to return an error message.

31. (Original) The clustered computer system of claim 25, wherein the program code is further configured to determine whether the node is capable of running the updated cluster infrastructure software prior to notifying the member and, if the node is not capable of running the updated cluster infrastructure software, to return an error message.

1       The following is an examiner's statement of reasons for allowance:

2       Applicant's arguments with respect to the prior art rejections of independent

3   claims 1 and 25, see the appeal brief filed on January 23, 2006, have been fully

4   considered and are persuasive.  The rejections of those claims have therefore been

5   withdrawn.  In view of the examiner's amendment to claims 11 and 18, the arguments

6   made with respect to claims 1 and 25 now apply to claims 11 and 18 as well.

7       As to Kampe, U.S. Patent No. 6,618,805, it describes a rolling upgrade in which

8   nodes are taken down and upgraded one at a time but the software has full

9   interoperability between the old and upgraded versions of the software (col. 1 lines 47-

10  57).  The claimed invention, in contrast, allows all nodes in a clustered computer

11  system having members of a group to be upgraded one at at time.  However, the nodes

12  having members of the group do not dynamically upgrade to the new version until after

13  they have been notified that all nodes having members of the group have been

14  upgraded.

15      Kampe, U.S. Patent No. 6,618,805, also describes a split mode upgrade in which

16  nodes are taken down and upgraded to a new release.  While the nodes are being

17  upgraded, some nodes run the old version of the software while other nodes run the

18  new version (col. 1 line 57 to col. 2 line 3).  In contrast, the claimed invention allows all

19  nodes having members of a group to run the same version of the software at the same

20  time since the members of the group do not dynamically upgrade to the new version

21  until after they have been notified that all nodes having members of the group have

22  been upgraded.  different nodes run different versions  but the software has full

1   interoperability between the old and upgraded versions of the software (col. 1 lines 47-

2   57).

3        As to Kampe, U.S. Patent App. Pub. 2001/0056461, paragraph 38 and Kumar,

4   U.S. Patent App. Pub. 2003/0005200, they are relevant but are merely cumulative over

5   what is described in Kampe, U.S. Patent No. 6,618,805.

6        Any comments considered necessary by applicant must be submitted no later

7   than the payment of the issue fee and, to avoid processing delays, should preferably

8   accompany the issue fee.  Such submissions should be clearly labeled "Comments on

9   Statement of Reasons for Allowance."

10

11                              *Conclusion*
12
13       Any inquiry concerning this communication or earlier communications from the
14  examiner should be directed to Andrew Caldwell, whose telephone number is (571)
15  272-3868.  The examiner can normally be reached on M-F from 9:00 a.m. to 5:30 p.m.
16  EST.
17
18       The fax number for Group 2100 is as follows:
19
20       Fax Responses:            571-273-8300
21
22       Any general inquiry relating to the status of this application can be answered
23  using Patent Application Information Retrieval (PAIR) system, which is available at the
24  USPTO web site.  Any questions on using the PAIR system should be directed to the
25  Patent Electronic Business Center toll free at (866) 217-9197.
26
27
28  *Andrew Caldwell*
29
30
31  Andrew Caldwell
32  571-272-3868
33  August 1, 2006